Health of King County 2006

Chapter 7: Injuries and Violence

7

Public Health
Seattle & King County
HEALTHY PEOPLE. HEALTHY COMMUNITIES

Introduction

Injuries are very common. Most of us will suffer a serious injury at least once in our lives. Often, people say “accident” when they talk about injuries. In fact, we can predict and prevent most injuries.

In the U.S. injuries are the leading cause of death from infancy to middle age, with health and social costs totaling over $180 billion a year.

In King County injuries killed more people between the ages of one and 44 than any other cause of death. Furthermore, injuries were the leading cause of hospitalization for King County residents ages five to 44 and over 85.

Injuries are classified by intent. The majority of injuries in King County are unintentional injuries, such as motor vehicle crashes. Suicide and homicide are examples of intentional injuries.

The 2003 King County injury death rate was 44.2 per 100,000. A total of 808 King County residents died as the result of an injury in 2003.

Injuries are the leading cause of years of potential life lost before age 65.

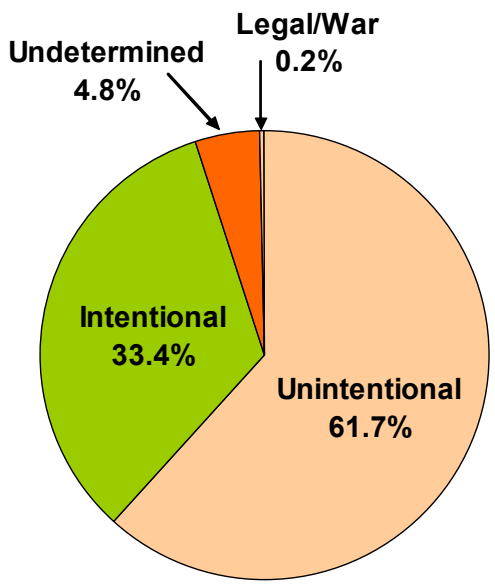
Public Health – Seattle & King County focuses on preventing traffic, firearm, fall, and submersion injuries. Additional information can be found on-line at

http://www.metrokc.gov/health/injury/index.htm and http://metrokc.gov/health/ems/index.htm.

Categories of Injury

- Injuries are classified by intent.
- Unintentional injuries, such as motor vehicle crashes and falls, account for over 60% of injury deaths in King County. During the 5 year period from 1999 to 2003, 2,444 King County residents died as a result of an unintentional injury.
- One third of injury deaths in King County are intentional – the result of a homicide or suicide. In King County, 1,324 residents died of an intentional injury from 1999 to 2003.
- Intent could not be ascertained in approximately 5% (189 cases) of injury deaths. These are classified as undetermined intent.
- A small percentage of injury deaths are attributed to legal/law enforcement actions or acts of war. Seven deaths were included in this category from 1999 to 2003.

Injuries By Intent, King County, 5-Year Total, 1999 - 2003



Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Unintentional Injuries

Unintentional injury deaths were second only to cancer as the leading cause of years of potential life lost in King County in 2003.

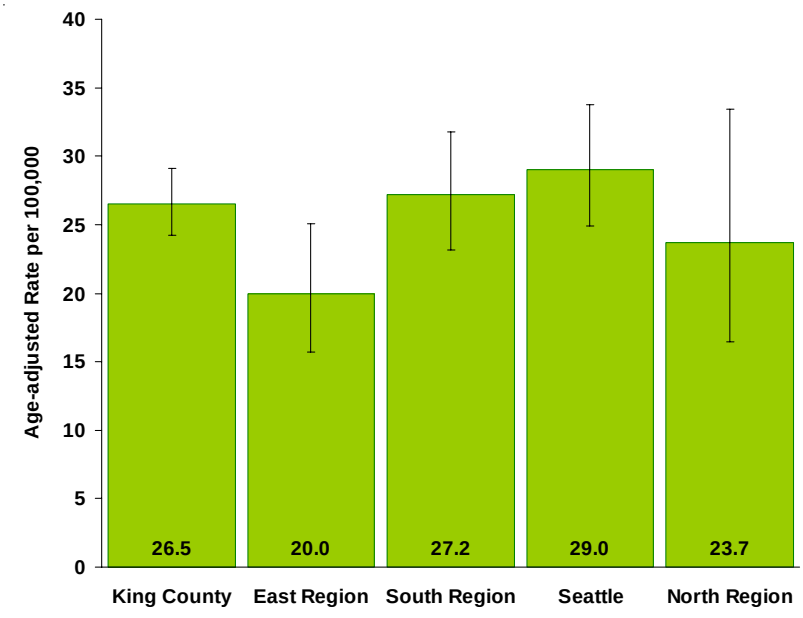
Between the ages of 1 and 44, King County residents are more likely to die from an unintentional injury than any other cause.

The 2003 King County unintentional injury death rate of 26.5 per 100,000 exceeds the Healthy People 2010 objective of 17.5 per 100,000.

King County and Regions

- In 2003 the King County unintentional injury death rate was 26.54 per 100,000. Although there are apparent differences in rates among King County and the four regions, these differences are not significant.
- The rate of unintentional injury deaths is relatively constant over time - showing no significant increase or decrease - in King County and in all four regions (data not shown).

Unintentional Injury Death Rates by Region
King County 2003

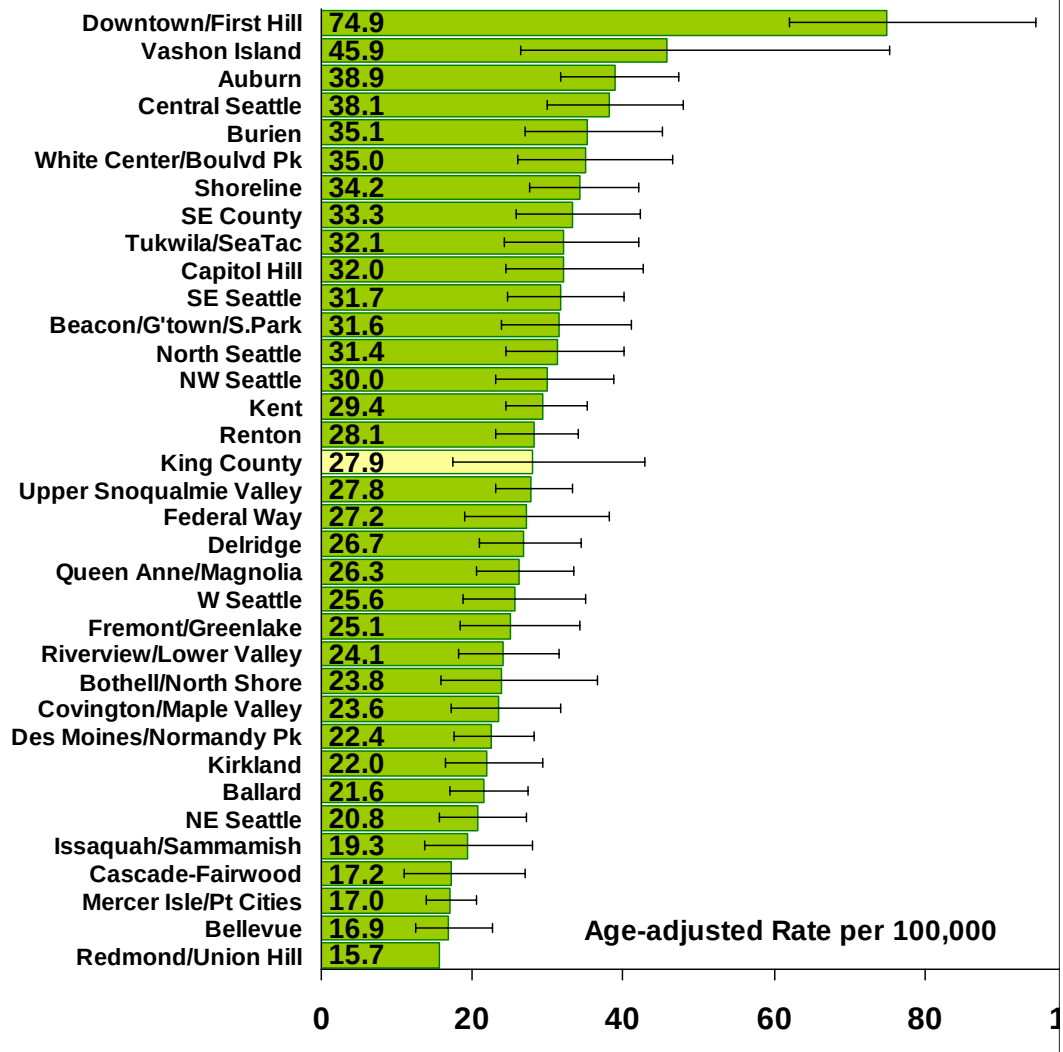


Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Patterns by Health Planning Area

- Averaging the five year period 1999 to 2003, the Downtown/First Hill Health Planning Area had the highest unintentional injury death rate in King County except for Vashon Island.
- The King County unintentional death rate for the period 1999 to 2003 is 27.92 per 100,000 (95% CI: 26.81, 29.06). The unintentional injury death rates in the Downtown/First Hill, Auburn, and Central Seattle Health Planning Areas are higher than the King County rate. The rates in the Northeast Seattle, Issaquah/ Sammamish, Cascade-Fairwood, Bellevue, and Redmond/Union Hill Health Planning Areas are lower than the King County rate.

Unintentional Injury Deaths by Health Planning Area, King County, 5-Year Average, 1999-2003

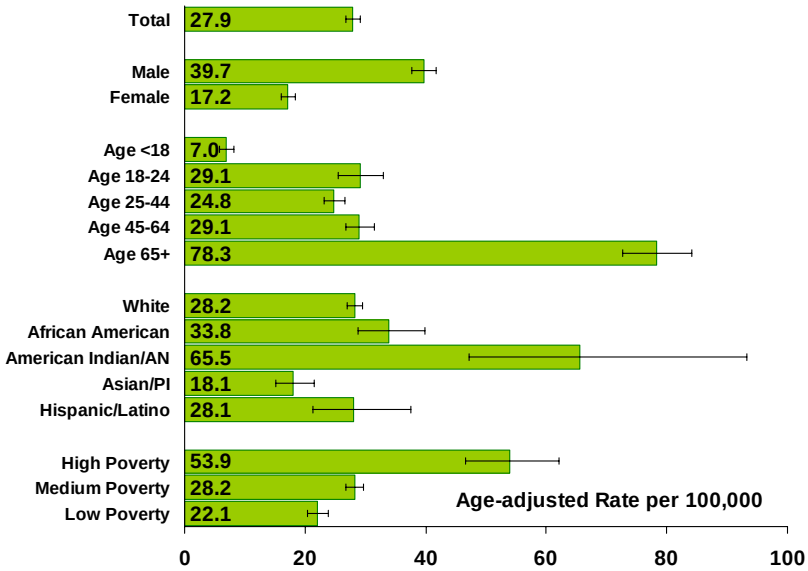


Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Focus on Disparities

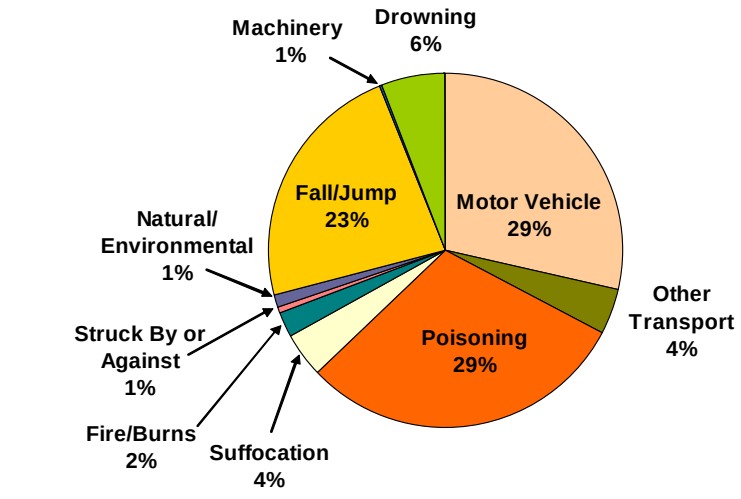
- Males are more than twice as likely to die as the result of an unintentional injury than females.
- Unintentional injury death rates vary greatly by age. The youngest, children under age 18, have death rates one fourth that of the overall population. The oldest, those age 65 and over, are much more likely to die of an unintentional injury than any other age group. The death rate for those over age 65 is 2.5 times greater than the overall population.
- The unintentional injury death rate for American Indian/Alaska Natives is higher than all other race/ethnic groups and is more than twice as high as the county rate.
- Those who live in higher poverty neighborhoods are disproportionally impacted by unintentional injuries. Unintentional injury death rates increase as neighborhood poverty level increases. In the highest poverty neighborhoods, the death rate is almost twice the county rate and almost 2.5 times the rate in the lowest poverty neighborhoods.

Unintentional Injury Deaths by Gender, Age, Race/Ethnicity, and Neighborhood Poverty Level, King County, 5-Year Average 1999-2003



Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Unintentional Injury Deaths by Cause King County, 5-Year Average 1999-2003



Note: Firearm, Overexertion, and Cut/Pierce Injuries total less than .1% and are not shown

Data Source: Washington State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Causes of Unintentional Injuries

- Injury deaths can result from a variety of causes. The three major causes in King County, accounting for over 80% of unintentional injury deaths, are motor vehicle related injuries, accidental poisonings, and falls.
- Preventing unintentional injuries can be complex. Detailed analysis of the cause and circumstance of an injury can target specific prevention strategies to be most effective.

* Poisoning includes: accidental overdose of drugs (prescription, over-the-counter, and illegal drugs such as cocaine and heroin), alcohol poisoning, solvents and their vapors, gases such as carbon monoxide, pesticides, poisonous plants, chemicals or other noxious substances.

Motor Vehicle Injuries

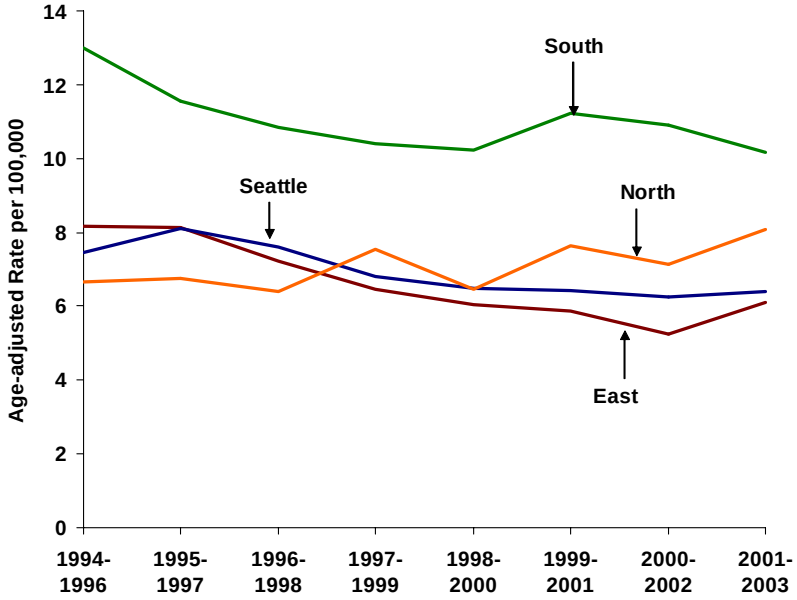
The King County motor vehicle death rate in 2003 was 7.5 per 100,000

The motor vehicle death rate in King County is lower than the Washington state rate, the Healthy People 2010 objective, demographically similar counties, and 11 of 15 major metropolitan U.S. counties.

King County and Regions

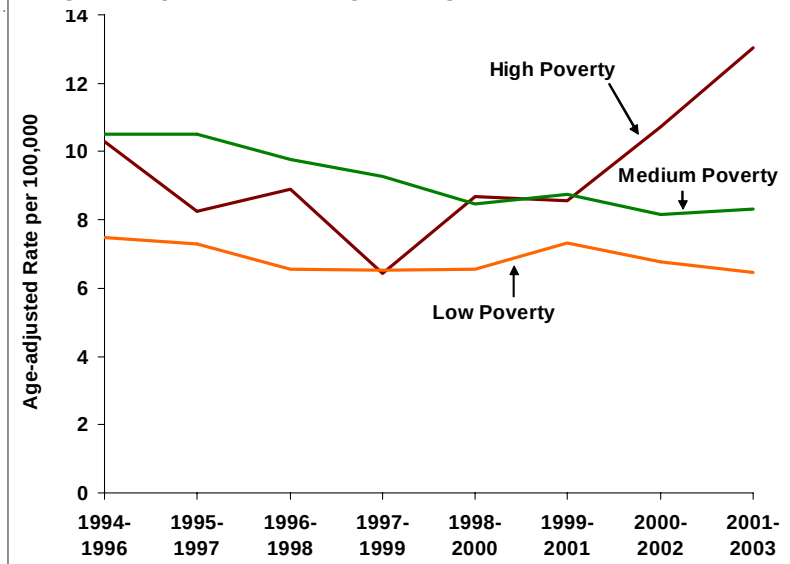
- Motor vehicle injury deaths have declined in South Region and in King County overall. Despite the decrease, the rate in the South Region remains significantly higher than in East Region and Seattle.
- Hospitalizations for motor vehicle injuries have also declined significantly in King County and in all four regions since 1993 (data not shown).
- See Public Health Core Indicators for Seattle & King County for more information about motor vehicle injuries.

Motor Vehicle Injury Deaths by Region, King County, 3 Year Rolling Averages 1994 - 2003



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Motor Vehicle Injury Deaths By Neighborhood Poverty Level, King County, 3 Year Rolling Averages 1994 - 2003



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

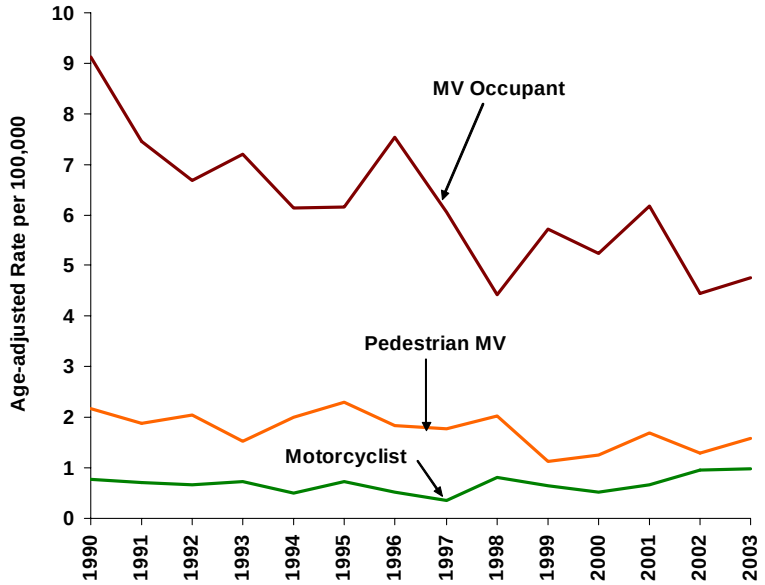
Focus on Disparities

- Those in higher poverty neighborhoods are at greater risk for motor vehicle injury death or hospitalization. Hospitalizations have decreased significantly at all poverty levels but deaths have only decreased for medium poverty neighborhoods.
- The motor vehicle death rate for males is twice that of females. The male rate has not decreased significantly while the female rate has. (Data not shown).
- The motor vehicle hospitalization rate has declined for both males and females. The hospitalization rate for males is also significantly higher than for females. (Data not shown).
- There are no significant differences in motor vehicle death rates for different race/ ethnic groups in King County (data not shown). Hospitalization data is not available by race/ethnicity.

Motor Vehicle Injuries by Circumstance

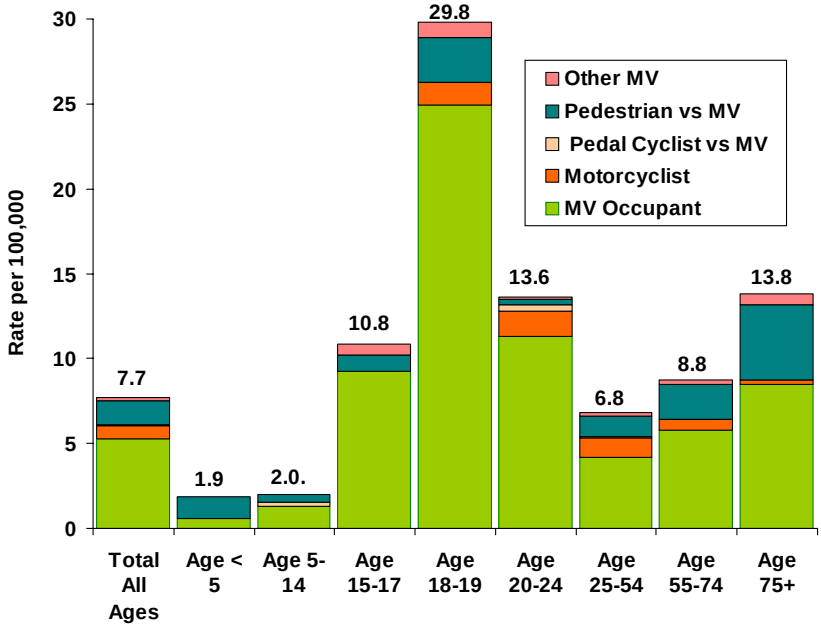
- Motor vehicle injury deaths result from a number of circumstances. Most, 68%, of motor vehicle deaths occur as an occupant; 18% occur as a pedestrian being struck by a motor vehicle; 10% are motorcyclists; and 1% are pedal cyclists struck by a motor vehicle (data not shown).
- Motor vehicle occupant deaths and pedestrian motor vehicle deaths have declined significantly while motorcyclist deaths have remained stable.

Motor Vehicle Deaths By Circumstance
King County, 1990 - 2003



Data Source: Washington Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Motor Vehicle Injury Death Rates By Age and Circumstance
King County, 5 Year Average 1999-2003



Data Source: Washington Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

- Motor vehicle injury death rates vary significantly across age groups. The youngest age groups have the lowest rates. Rates for ages 18 – 19 are highest - more than twice the next highest age group.
- The majority of deaths among those under age 5 are pedestrian deaths. In all other age groups the majority of deaths are motor vehicle occupant. The highest rate of occupant deaths occur among those age 18-19. Those age 75 and over have higher pedestrian death rates than any other age group, although this difference is not always significant.

Submersion Injuries

In 2003 there were 30 submersion deaths (drowning) among King County residents. The submersion death rate was 1.7 per 100,000.

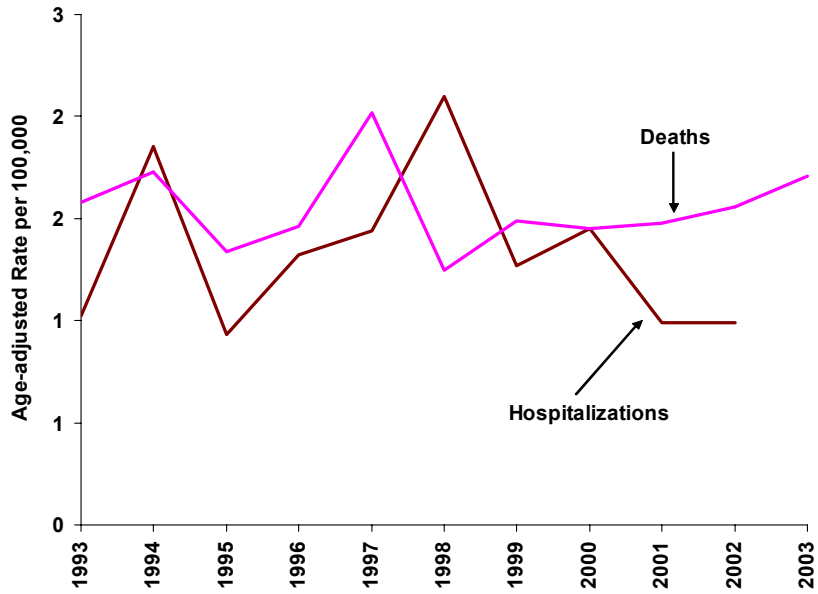
The King County submersion death rate exceeds the Healthy People 2010 target of .9 per 100,000

There were 11 submersion hospitalizations in 2003 for a rate of .7 per 100,000.

King County and Regions

- There is a significantly decreasing trend in submersion hospitalizations in King County. The trend in submersion deaths (drowning) is stable.

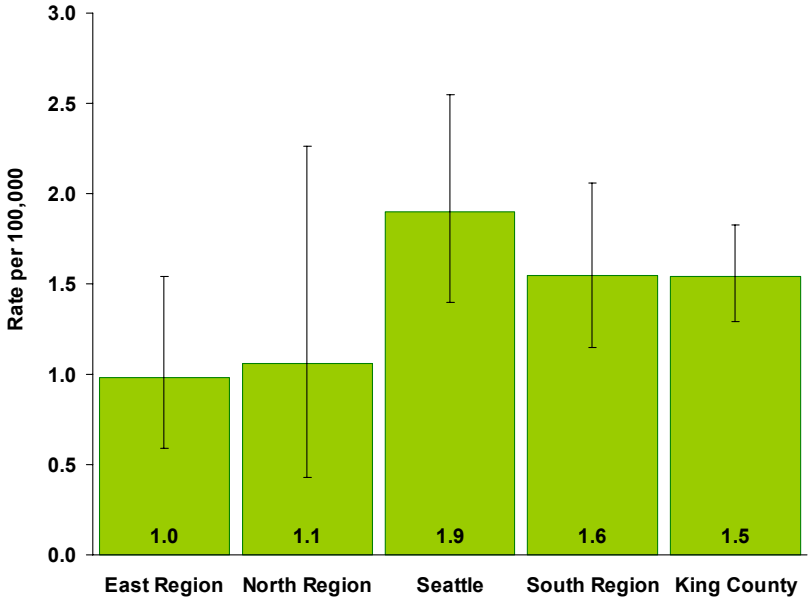
Submersion Deaths and Hospitalizations, King County, 1993-2003



Data Source: Deaths-WA State Department of Health, Center for Health Statitics, Death Certificates Hospitalizations-WA State Department of Health, Office of Patient Data Systems, Hospital Discharge Data
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

- Regional differences in submersion death rates are not statistically significant.
- The submersion death rate for males is significantly higher than for females (data not shown).
- There are no significant differences in submersion death rates among different age groups, different race/ethnic groups or among different neighborhood poverty levels (data not shown).

Submersion Deaths by Region, King County, 1999-2003 Combined



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Fall Injuries

A fall can result in serious injury leading to permanent disability or death.

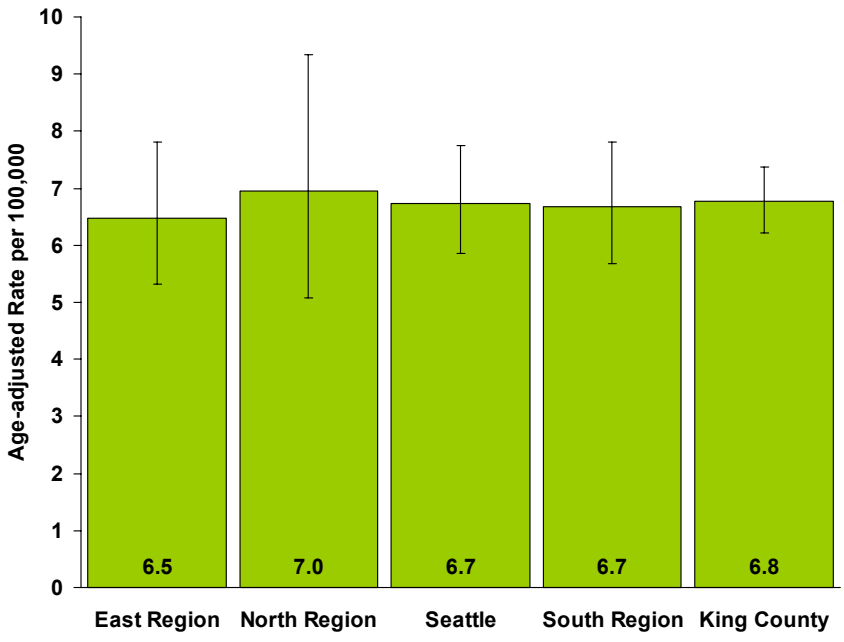
The 2003 King County fall death rate of 7.3 per 100,000 (124 deaths) is higher than the Healthy People 2010 target of 3 per 100,000.

In 2004 there were 5,105 hospitalizations in King County related to injuries from falls. The fall hospitalization rate in 2004 was 302.8 per 100,000.

King County and Regions

- There are no significant differences in fall death rates between King County and the 4 regions. Nor did the regions differ from on another.
- Fall death rates have been stable since 1994 in King County and in all 4 regions (data not shown).
- Hospitalizations for fall injuries have been declining in King County and in East Region, Seattle, and North Region (data not shown).

Fall Injury Death Rates by Region, King County, 5 Year Average 1999 - 2003

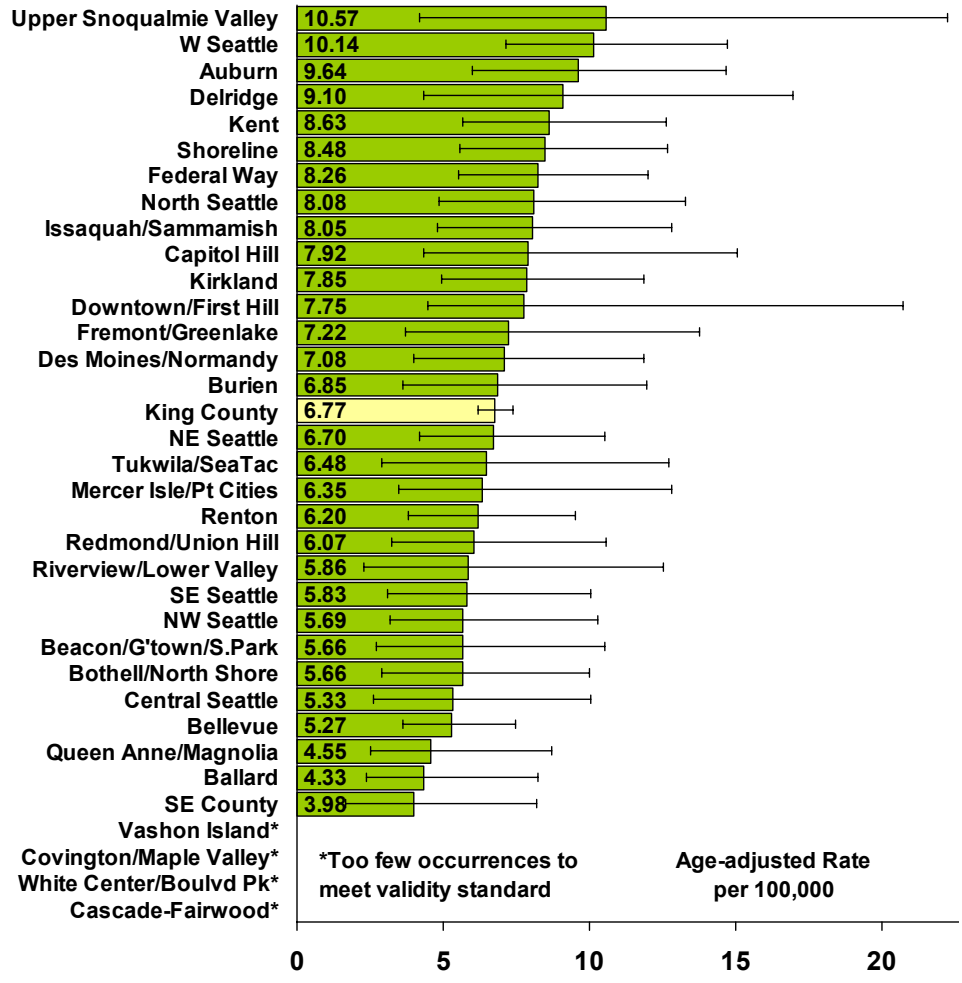


Data Source: WA State Department of Health, Center for Health
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & EvaluationStatistics, Death Certificates

Patterns by Health Planning Area

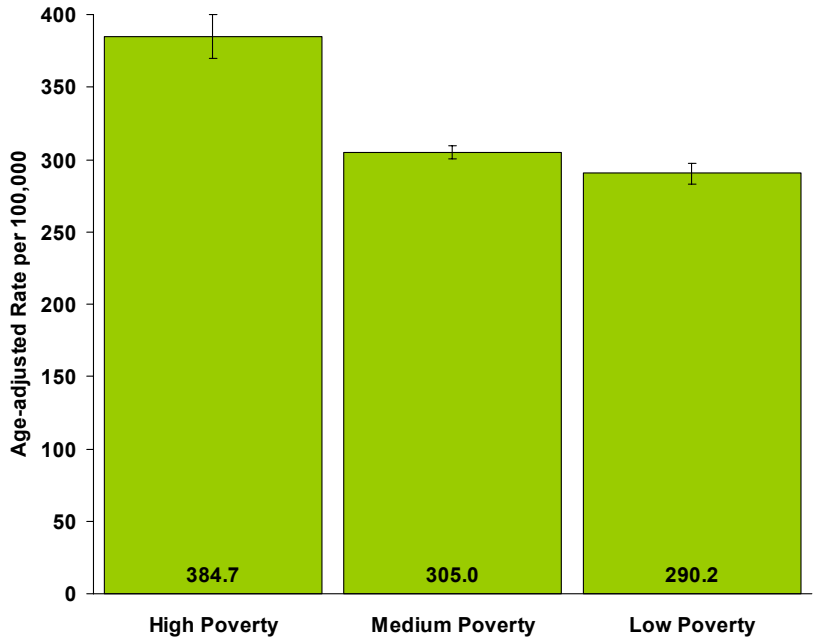
- Apparent differences in fall death rates by Health Planning Area are not significant.
- No Health Planning Area rate is significantly higher or lower than the King County rate.

Fall Injury Death Rates by Health Planning Area, King County, 5 Year Average 1999-2003



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Fall Injury Hospitalization Rates by Neighborhood Poverty Level, King County 5 Year Average 2000 - 2004



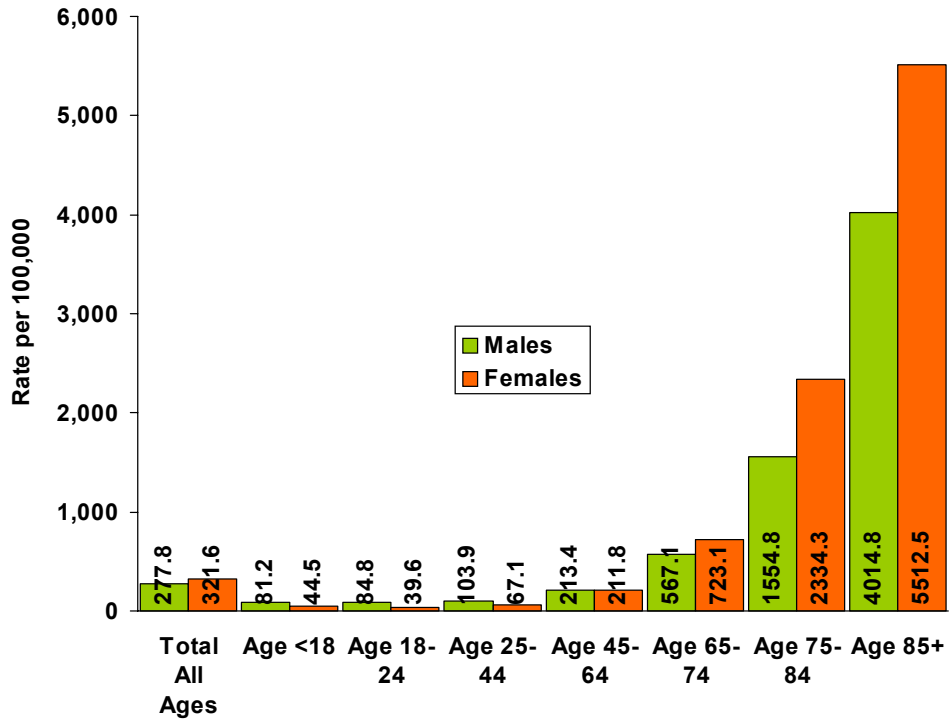
Data Source: WA State Department of Health, Office of Hospital and Patient Data Systems, Hospital Discharge Data
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Focus on Disparities

- Fall death rates do not vary by race or ethnicity (data not shown). Hospitalization data is not available by race/ethnicity.
- Hospitalizations for fall injuries are highest in high poverty neighborhoods and lowest in low poverty neighborhoods.
- There are no significant differences in fall deaths by neighborhood poverty level (data not shown).
- Fall death and hospitalization rates increase with age with the highest rates seen among older adults (data not shown).
- There is an increasing trend in fall deaths among those age 65 and older. This increase is due to significant increases in fall deaths among males age 75-84. Rates for all other age groups are stable. (Data not shown).

- Fall death rates are significantly higher for males than females (data not shown); however fall hospitalizations are significantly higher for females.
- Patterns in fall injuries by age vary by gender. While female hospitalization rates are higher than males overall, male hospitalization rates are higher than female rates for all age groups under age 45. Between the ages of 45 and 74 male and female hospitalization rates are not significantly different. After age 70 female hospitalization rates are significantly higher than male rates.
- Fall death rates among males are usually higher than for females within each age group although this difference is not always significant (data not shown).

Fall Injury Hospitalization Rates by Age and Gender, King County 5 Year Average 2000 - 2004



Data Source: WA State Department of Health, Office of Hospital and Patient Data Systems, Hospital Discharge Data
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Firearm Injuries

In 2003, 140 residents of King County were killed by a firearm. The intent of the shooting could not be determined in only one of these deaths. The remaining 139 deaths were intentional; 42 homicides and 97 suicides. There were no unintentional firearm deaths among King County residents in 2003.

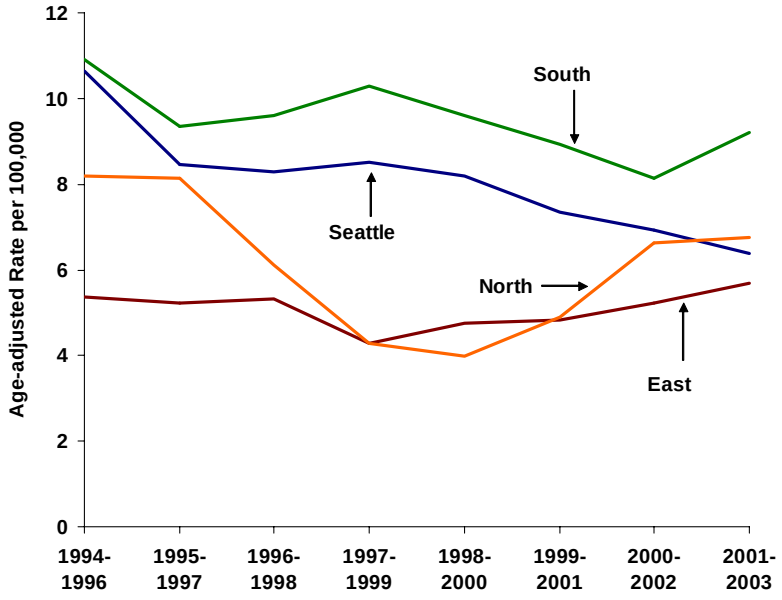
The 2003 King County firearm death rate was 7.6 deaths per 100,000 population. When compared to 15 major metropolitan U.S. counties, King County tied for the 10th lowest rate.

While the King County firearm death rate has declined significantly since 1994, the rate remains higher than the Healthy People 2010 goal of 4.1 deaths per 100,000.

King County and Regions

- During the 10 year period 1994 to 2003, the firearm death rate declined significantly in the Seattle and in King County overall (data not shown).
- The South Region has the highest firearm death rate. During the period 1999-2003, the firearm death rate in South Region was 9.3 per 100,000 which was significantly higher than the rates in the other 3 regions.
- Small numbers of deaths within Health Planning Areas make detecting statistical differences between these small geographic areas very difficult.
- See Public Health Core Indicators for Seattle and King County for more information about firearm injuries.

Firearm Deaths by Region, King County, 3 Year Rolling Averages 1994 - 2003

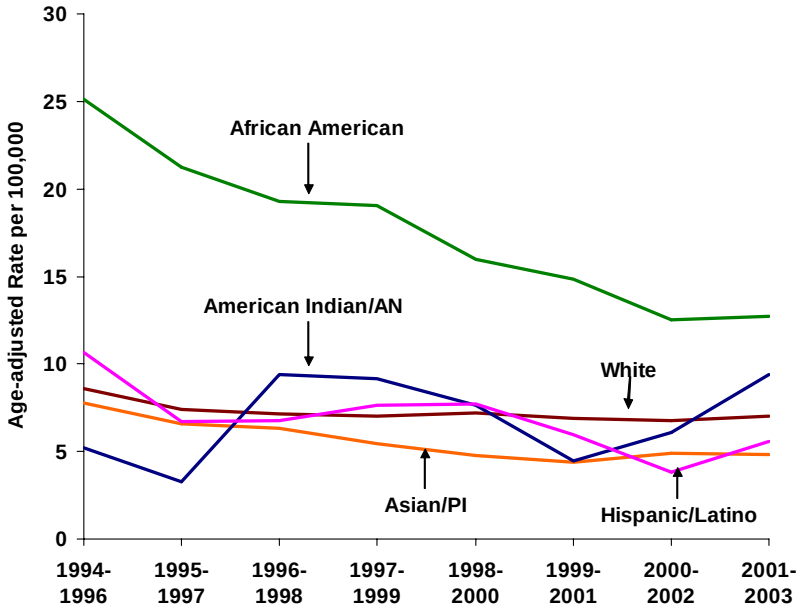


Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Focus on Disparities

- During the 10 year period 1994 to 2003, there was a highly significant decrease in the firearm death rate among African Americans in King County. Significant declines were also seen among Asian/Pacific Islanders and whites during this period. The Hispanic/Latino rate was stable during this time. Due to the very small number of firearm deaths among American Indian/ Alaska Natives, it was not possible to test for trends.
- Despite dramatic declines, the firearm death rate for African Americans remains high in King County. The 1999-2003 rate of 14.4 per 100,000 is significantly higher than all other race/ethnic groups except American Indian/ Alaska Natives.

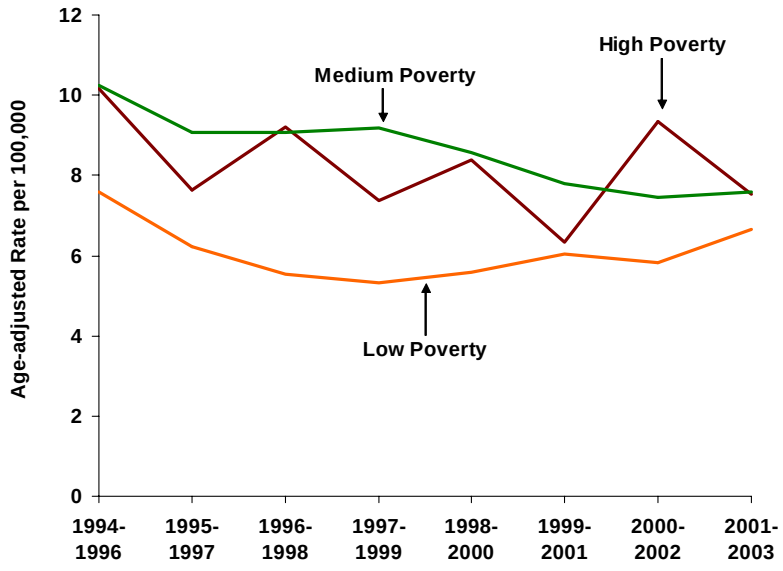
Firearm Deaths by Race/Ethnicity, King County, 3 Year Rolling Averages 1994 - 2003



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

- The decline in firearm deaths among African Americans can be attributed to a significant decrease in firearm homicides. Firearm homicides have also decreased among Asian/Pacific Islanders (data not shown).
- The decline in the firearm death rate for whites is due to a significant decrease in firearm suicides (data not shown).

Firearm Deaths by Neighborhood Poverty Level, King County, 3 Year Rolling Averages 1994 - 2003

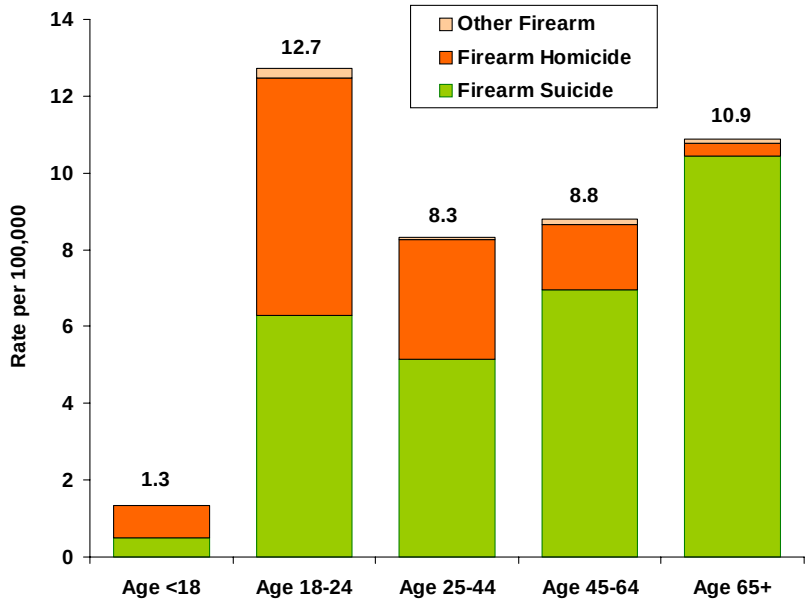


Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

- During the period 1994 to 2003, significant declines in firearm death rates were found in high and medium poverty neighborhoods. The death rate in low poverty neighborhoods was stable during this time period.
- Although the firearm death rate for King County males has declined significantly since 1994, the rate remains significantly higher than the female rate. During the period 1999 to 2003, the rate for males was more than six times the female rate (data not shown).

- Firearm deaths have declined in all age groups except age 45-64 (data not shown). Firearm death rates for those age 18-24 are significantly higher than all other age groups except those age 65 and over. The difference between rates for those age 18-24 and age 65 and older is not statistically significant.
- For those in the younger age groups, firearm deaths are almost equally divided between homicides and suicides. As age increases the proportion of firearm deaths that are suicides increases until 95% of firearm deaths are suicides.

Firearm Deaths, By Intent, By Age
King County, 1999-2003 Combined



Data Source: WA Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Homicide and Assault Injuries

Assault injuries are intentional injuries – intentionally causing bodily harm to another person. An assault that results in death is a homicide. Homicides and serious assault injuries that result in hospitalization are reported in this chapter.

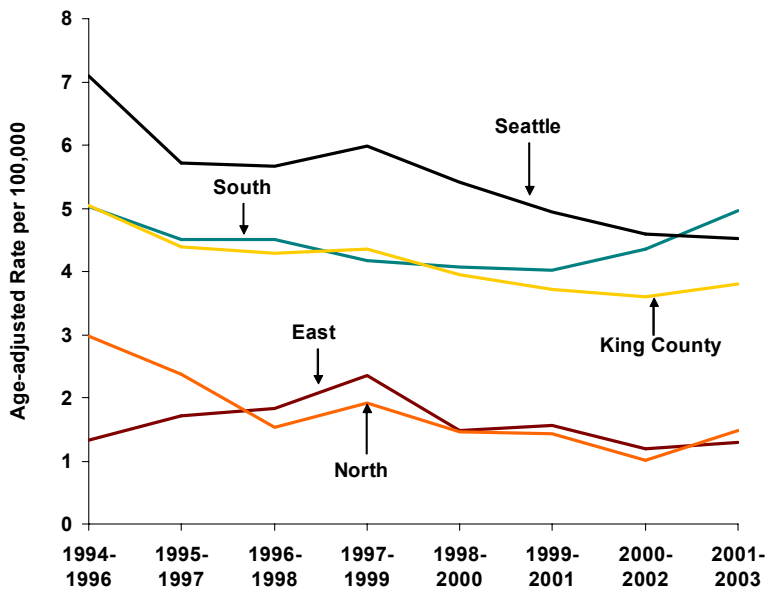
The 2003 King County homicide rate of 3.9 deaths per 100,000 is less than the Washington State rate, the rate for demographically similar counties, and less than 11 of 15 major metropolitan U.S. counties.

The 2003 King County homicide rate exceeds the Healthy People 2010 goal of 3 per 100,000.

King County and Regions

- The homicide rate in King County is significantly decreasing. On a regional level, only Seattle has a significantly decreasing trend. The apparent upturn in South Region is not significant.
- When averaged over the 5 year period 1999-2003, the homicide rates for Seattle and South Region are significantly higher than the rates for East and North Regions (data not shown).
- King County has also experienced a significant decline in hospitalizations for assault injuries. Assault hospitalizations have declined in East Region and in Seattle. Significant differences in assault hospitalizations remain between all King County regions. Seattle has the highest rate followed by South Region. North Region is lower than Seattle and South Region and East Region has the lowest rate of all. (Data not shown).
- See Public Health Core Indicators for Seattle and King County for more information about homicide and assault injuries

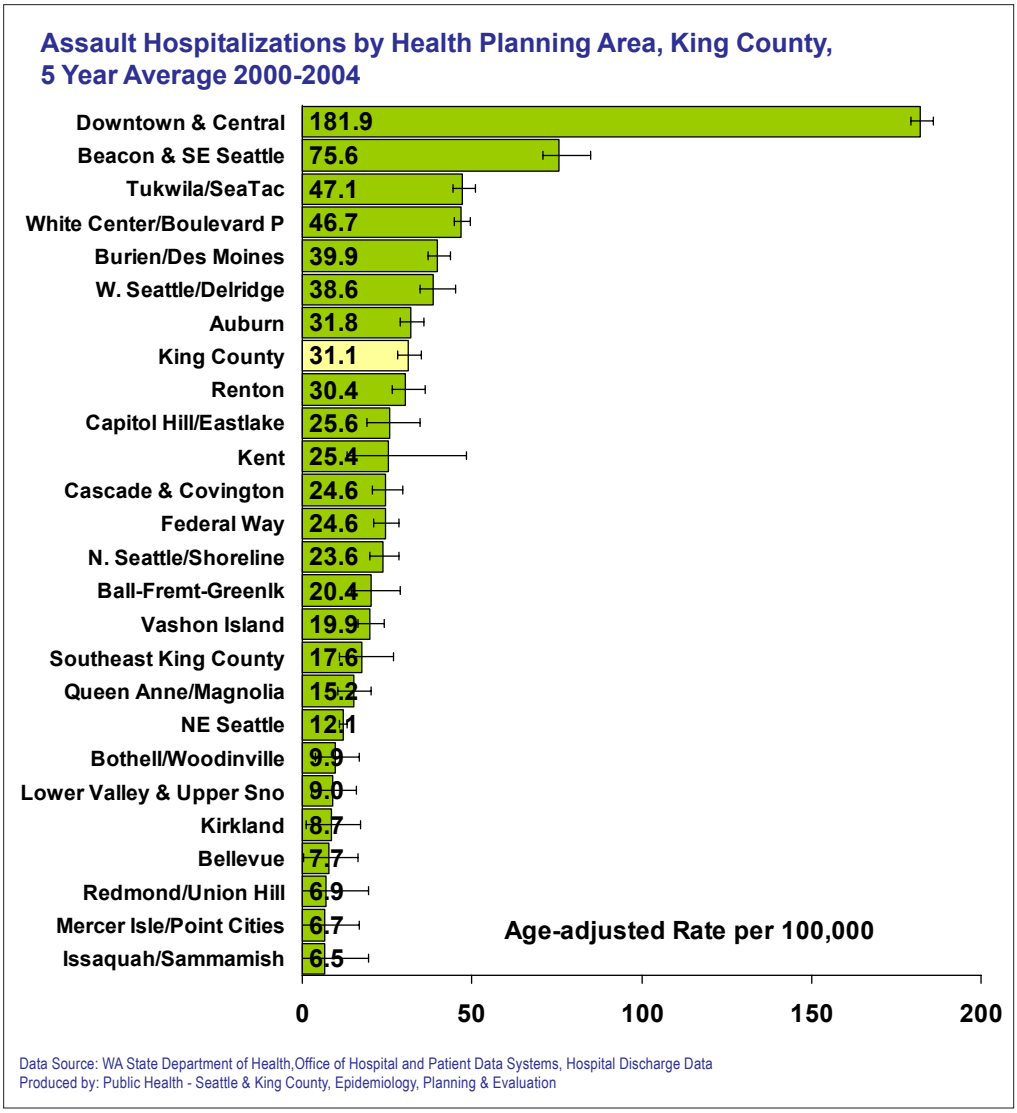
Homicide Deaths By Region, King County, 3 Year Rolling Averages 1994 - 2003



Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Patterns by Health Planning Area

- Hospitalizations for assault injuries vary by the victim's place of residence. Those who live in the Downtown and Central Seattle, Beacon Hill and Southeast Seattle, Tukwila/SeaTac, White Center/Boulevard Park, Burien/Des Moines and West Seattle/Delridge Health Planning Areas have higher assault hospitalization rates than the county overall.

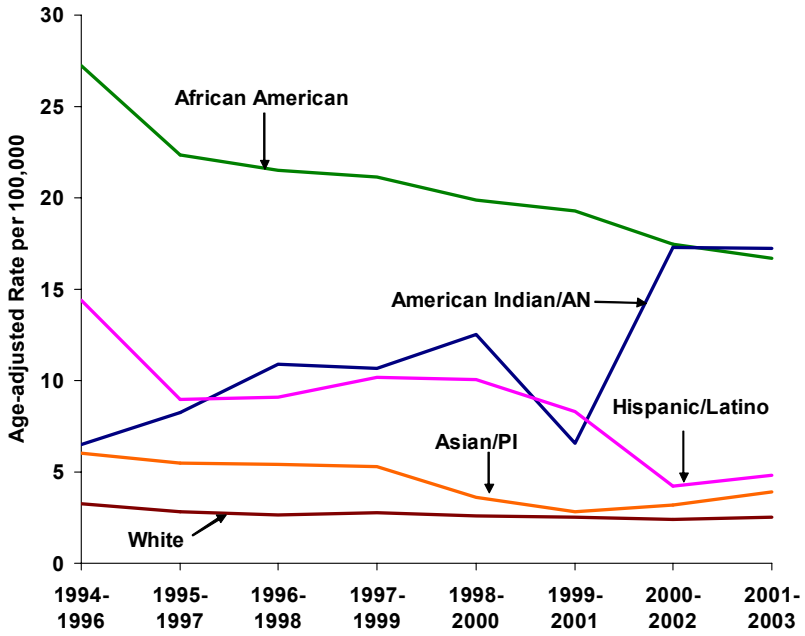


- Small numbers of homicides within Health Planning Areas make detecting statistical differences between these small geographic areas very difficult. Homicide rates in the Southeast Seattle, Central Seattle, and Beacon Hill/ Georgetown/South Park Health Planning Areas are higher than the overall county homicide rate (data not shown).

Focus on Disparities

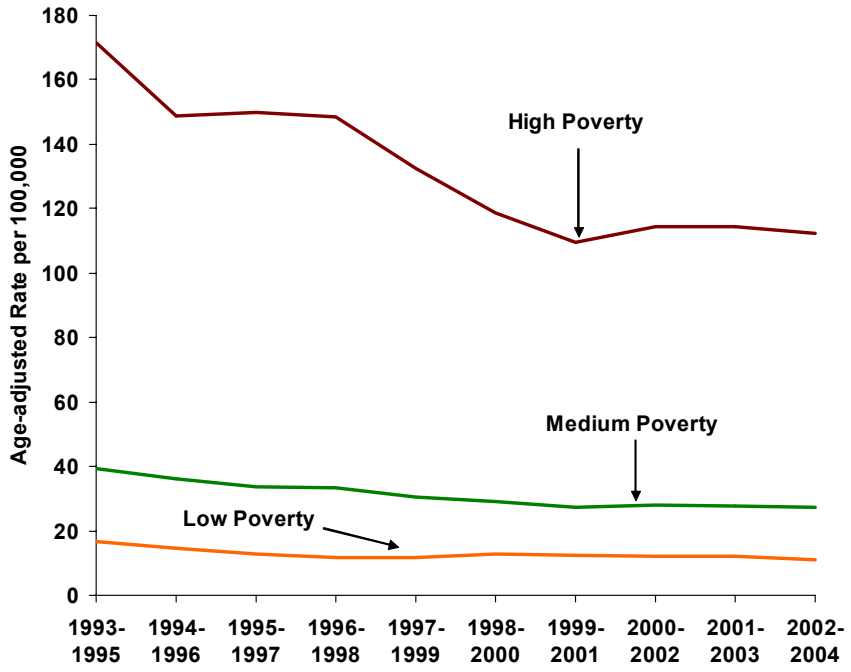
- The decrease in homicide rates experienced by the county overall was also seen among African Americans, Asian/Pacific Islanders, whites, and Hispanic/Latinos. The number of homicides among American Indian/Alaska Natives is too few for a statistical trend test.
- The decline in homicides for African Americans and Asian/Pacific Islanders is due to a significant decline in firearm homicides. Non-firearm homicides did not decline in these two groups.
- Despite the declines, differences among race/ethnic groups remain. When averaged over the 5 year period 1999-2003, African Americans, American Indian/Alaska Natives, and Hispanic/Latinos have higher homicide rates than whites (data not shown).
- Hospitalization data is not available by race/ethnicity.

Homicide Deaths By Race/Ethnicity, King County, 3 Year Rolling Averages 1994 - 2003



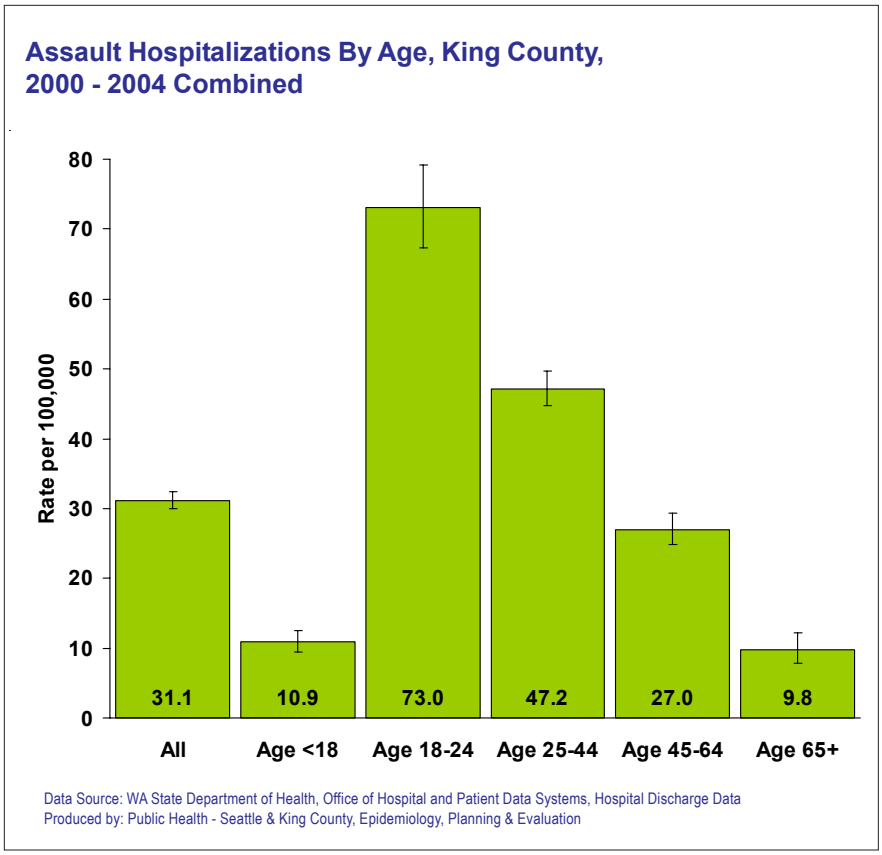
Data Source: WA State Department of Health, Center for Health Statistics, Death Certificates
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

Assault Hospitalizations By Neighborhood Poverty Level, King County, 3 Year Rolling Averages, 1993 - 2004



Data Source: WA State Department of Health, Office of Hospital and Patient Data Systems, Hospital Discharge Data
Produced by: Public Health - Seattle & King County, Epidemiology, Planning & Evaluation

- Significant downward trends in assault hospitalizations have been seen in both high poverty and medium poverty neighborhoods.
- Assault hospitalizations remain highest in high poverty neighborhoods and lowest in low poverty neighborhoods. Averaged over the 5 year period 2000 – 2004, the assault hospitalization rate in high poverty neighborhoods of 113.5 per 100,000 is almost 10 times the rate in low poverty neighborhoods, 11.8 per 100,000 (data not shown).
- Homicide rates by neighborhood poverty level show a similar pattern. While homicide rates have declined in high and medium poverty neighborhoods, the rates remain higher than for low poverty neighborhoods. (Data not shown).



- Homicides and assault hospitalizations have declined for males and females. Males however, experience homicide and assault injury hospitalizations at higher rates than females. (Data not shown).
- Homicide and assault injury rates vary significantly by age group. Assault hospitalization and homicide rates for those age 18-24 are higher than any other age group.